

**ABSTRACT**

The present invention is a wide band GaAs microwave monolithic integrated circuit (MMIC) transmit chip that is capable of transmitting linearly or circularly polarized signals when connected to a pair of orthogonal cross-polarized antennas. In an active phased-array antenna environment, this transmit chip is capable of transmitting signals with different scan angles. This invention also contains a digital serial to parallel converter that uses TTL signal to control the phase shifter and attenuator circuits that are required for controlling the polarization and scan angle of the transmitted signal.